

# Eureka Math *A Story of Units*

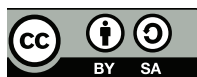
## Fourth Grade – Module 3

### 2015-2016

#### Table of Contents

Module Assessment Overview	page 2
Grade 4 Standards Checklist	page 3
Module 3 Mid-Module Assessment Task...	
Score Sheet	pages 4-5
Rubric	page 6
Key	pages 7-10
Module 3 End-of-Module Assessment Task...	
Score Sheet	pages 11-12
Rubric	pages 13-14
Key	pages 15-19

Materials based on Eureka Math Version 3.



## Module Assessment Overview

### Purpose of Assessments

**Mid-Module Assessment:** These tasks address approximately the **first half** of the module's learning objectives, and provide important information for instruction and for grading.

**End-of-Module Assessment:** These tasks are based on all standards addressed in order to gauge students' full range of understanding of the **module as a whole**. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

### Administration of Assessments

- Mid- and End-of-Module Assessments are designed to be completed in approximately one class period. However, The tests can be given over multiple days as needed.
- Assessments are designed to be completed independently by students, without assistance.
- These tasks should not be preceded by review of similar problems.

### Grading Guidance

The grading scale on Elementary Report Cards has been changed for 2015-2016 and beyond. Please note that ***4 now indicates advanced understanding of grade level standards expected at this time of year.***

**4 – Advanced:** Student demonstrates advanced understanding of grade level standards expected at this time of year.

**3 – Proficient:** Student demonstrates proficiency with grade level standards expected at this time of year.

**2 – Basic:** Student demonstrates basic understanding of grade level standards expected at this time of year. Student needs additional support and practice.

**1 – Below Basic:** Student demonstrates minimal understanding of grade level standards expected at this time of year. Student needs significant support and practice.

**Rubrics have been updated to reflect this change. Rubrics have been further modified from Eureka Math originals for clarity, accuracy, and alignment to Bethel's grade scale.**

### General Grading Guidance:

- On the report card, student learning is reported by CCSS domain. The Fourth Grade CCSS domains are: Operations and Algebraic Thinking, Number and Operations in Base Ten, Number and Operations – Fractions, Measurement and Data, and Geometry.
- Grades in each domain should be based on multiple sources of evidence, including the Mid- and End-of-Module Assessments. The End-of-Module assessment should carry more weight than the Mid-Module Assessment in terms of student grades in the appropriate domain.

### Module 3 Grading Guidance:

- Standards 4.OA.1, 4.OA.2, and 4.OA.3 will be assessed again in Module 7. The remaining standards taught and assessed in this module will not be assessed again.

## Grade 4 Common Core State Standards Checklist by Module

This grade-level chart provides an at-a-glance view of when each standard is addressed. Shaded boxes indicate standards assessed in Module 3. Some standards may be assessed again in a future module. *Note that standards included in major clusters are followed by an asterisk (\*)*. Please refer to the Curriculum Overview of *A Story of Units* for a curriculum map and detailed grade-level descriptions including a summary of the year, a rationale of the module sequence, and a standards alignment chart.

CCSS		GRADE 4 MODULES						
		1	2	3	4	5	6	7
4.OA	1*			X				X
	2*			X				X
	3*	X		X				X
	4			X				
	5					X		
4.NBT	1*	X						
	2*	X						
	3*	X						
	4*	X						
	5*			X				X
	6*			X				
4.NF	1*					X		
	2*					X		
	3a*					X		
	3b*					X		
	3c*					X		
	3d*					X		
	4a*					X		
	4b*					X		
	4c*					X		
	5*						X	
	6*						X	
	7*						X	
4.MD	1		X					X
	2		X			X	X	X
	3			X				
	4					X		
	5a				X			
	5b				X			
	6				X			
	7				X			
4.G	1				X			
	2				X			
	3				X			

## Grade 4 Module 3 Mid-Module Assessment Task Score Sheet

### A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

#### Score Key: A Progression of Learning

Little or no evidence of reasoning with an incorrect answer.  (1 Point)	Evidence of some reasoning with an incorrect answer.  (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  (3 Points)	Evidence of solid reasoning with a correct answer.  (4 Points)
---	--	---	--

Module 3: Mid-Module Assessment								
Question	Domain			Standards				
	Operations and Algebraic Thinking	Number and Operations in Base Ten	Measurement and Data	4.OA.1	4.OA.2	4.OA.3	4.NBT.5	4.MD.3
1		1 2 3 4					X	
2		1 2 3 4					X	
3	1 2 3 4			X	X	X		
4	1 2 3 4	1 2 3 4		X		X	X	
5 a, b, c			1 2 3 4					X
5 a, d	1 2 3 4			X	X	X		

Domain Score	Number and Operations in Base-Ten		Number and Operations in Base Ten		Measurement and Data	
Total Points						
Level	4	11-12 pts.	4	11-12 pts.	4	4 pts.
	3	8-10 pts.	3	8-10 pts.	3	3 pts.
	2	5-7 pts.	2	5-7 pts.	2	2 pts.
	1	3-4 pts.	1	3-4 pts.	1	1 pt.

Note: For more information about standards assessed in this module, see back of this score sheet.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

## Grade 4 Module 3 Mid-Module Assessment Task Score Sheet (continued)

### Mid-Module Assessment Task (Topics A-D) Clusters and Standards Addressed

#### Use the four operations with whole numbers to solve problems.

- 4.OA.1** Interpret a multiplication equation as a comparison, e.g., interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
- 4.OA.2** Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
- 4.OA.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

#### Use place value understanding and properties of operations to perform multi-digit arithmetic.

- 4.NBT.5** Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

#### Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

- 4.MD.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

## Grade 4 Module 3 Mid-Module Assessment Task Rubric

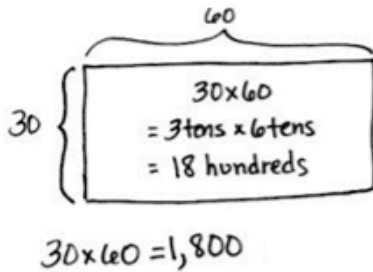
A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer.  (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
<b>1</b>  <b>4.NBT.5</b>	The student correctly completes <b>0-1</b> of the four parts.	The student correctly completes <b>2</b> of the four parts.	The student correctly completes <b>3</b> of the four parts.	The student correctly completes <b>4</b> of the four parts. (See below.)
	<b>a. (1) area model (2) 1,800</b> <b>b. (3) area model (4) 807</b>			
<b>2</b>  <b>4.NBT.5</b>	The student correctly completes <b>0-1</b> of the four parts.	The student correctly solves <b>2</b> of the four parts.	The student correctly solves <b>3</b> of the four parts.	Student correctly answers <b>4</b> of the four parts. (See below.)
	<b>a. (1) 204      b. (2) 1,484      c. (3) 9,135      d. (4) 30,170</b> Shows all work using area models, partial products, or the general method.			
<b>3</b>  <b>4.OA.1</b> <b>4.OA.2</b> <b>4.OA.3</b>	The student answers <b>0</b> of the three parts.	The student answers <b>1</b> of the three parts.	The student answers <b>2</b> of the three parts.	The student answers <b>3</b> of the three parts. (See below.)
	<b>(1) Uses an equation or model to solve</b> <b>(2) Shows work</b> <b>(3) Answers 648 seats in an answer statement</b>			
<b>4</b>  <b>4.NBT.5</b> <b>4.OA.1</b> <b>4.OA.3</b>  Use this rubric to double score #4. Enter the same score in OA as in NBT.	The student correctly answers <b>0-1</b> of the four parts.	The student correctly answers <b>2</b> of the four parts.	The student correctly answers <b>3</b> of the four parts.	The student correctly answers <b>4</b> of the four parts. (See below.)
	<b>(1) uses an equation or model to solve</b> <b>(2) shows work</b> <b>(3) answers 1,092 boxes in an answer statement</b> <b>(4) validates answer is reasonable through estimation.</b>			
<b>5a, b, c</b>  <b>4.MD.3</b>  Part a will be scored in both MD and OA.	The student correctly answers <b>0</b> of the three parts.	The student correctly answers <b>1</b> of the three parts.	The student correctly answers <b>2</b> of the three parts.	The student correctly answers <b>3</b> of the three parts. (See below.)
	<b>a. (1) 5 m × 4 m = 20 square meters</b> <b>b. (2) 120 square meters</b> <b>c. (3) 26 meters</b>			
<b>5a, d</b>  <b>4.OA.1</b> <b>4.OA.2</b> <b>4.OA.3</b>	The student correctly answers <b>0</b> of the three parts.	The student correctly answers <b>1</b> of the three parts.	The student correctly answers <b>2</b> of the three parts.	The student correctly answers <b>3-4</b> of the four parts. (See below.)
	<b>a. (1) draws a rectangle for last year's garden; labels the width as 10 meters and length as 12 meters.</b> <b>d. (2) writes multiplication equation</b> <b>(3) 208 plants;</b> <b>(4) reasons correctly through estimation.</b>			

## Grade 4 Module 3 Mid-Module Assessment Task Key

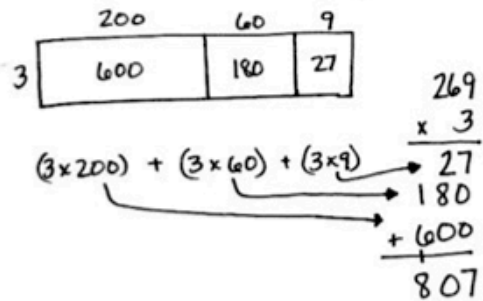
Name Jack Date \_\_\_\_\_

1. Draw an area model to solve the following. Find the value of the following expressions.

a.  $30 \times 60$



b.  $3 \times 269$



2. Use any place value strategy to multiply.

a.  $3 \times 68$

$$\begin{array}{r} 68 \\ \times 3 \\ \hline 24 \\ + 180 \\ \hline 204 \end{array}$$

b.  $4 \times 371$

$$\begin{array}{r} 371 \\ \times 4 \\ \hline 4 \\ 280 \\ + 1200 \\ \hline 1,484 \end{array}$$

c.  $7 \times 1,305$

$$\begin{array}{r} 1305 \\ \times 7 \\ \hline 35 \\ 2100 \\ + 7000 \\ \hline 9,135 \end{array}$$

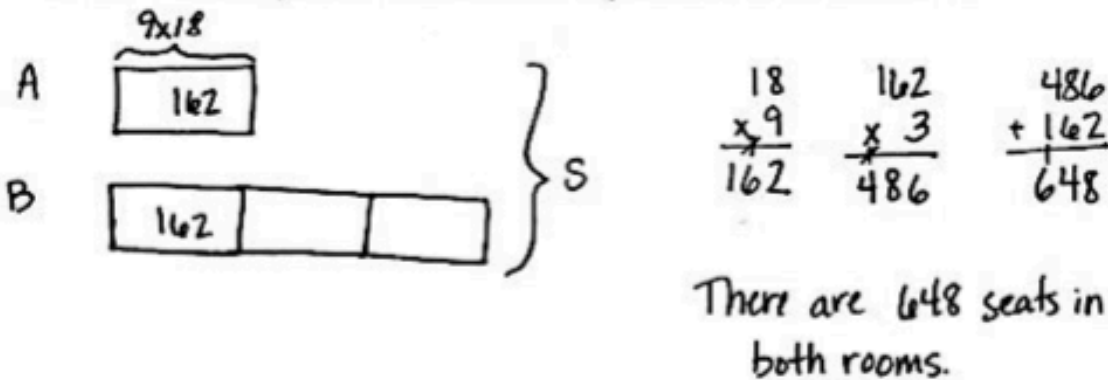
d.  $6,034 \times 5$

$$\begin{array}{r} 6034 \\ \times 5 \\ \hline 20 \\ 150 \\ + 30,000 \\ \hline 30,170 \end{array}$$

## Grade 4 Module 3 Mid-Module Assessment Task Key (continued)

Solve using a model or equation. Show your work and write your answer as a statement.

3. A movie theater has two rooms. Room A has 9 rows of seats with 18 seats in each row. Room B has three times as many seats as Room A. How many seats are there in both rooms?



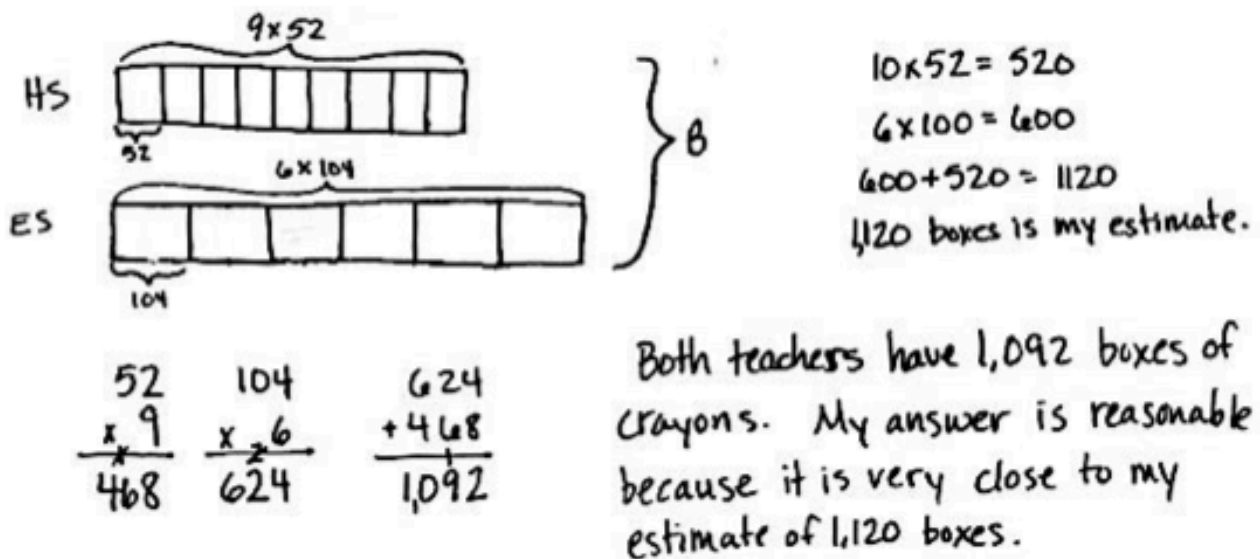
$$\begin{array}{r} 18 \\ \times 9 \\ \hline 162 \end{array}$$

$$\begin{array}{r} 162 \\ \times 3 \\ \hline 486 \end{array}$$

$$\begin{array}{r} 486 \\ + 162 \\ \hline 648 \end{array}$$

There are 648 seats in both rooms.

4. The high school art teacher has 9 cases of crayons with 52 boxes in each case. The elementary school art teacher has 6 cases of crayons with 104 boxes in each case. How many total boxes of crayons do both teachers have? Is your answer reasonable? Explain.



$$\begin{array}{r} 52 \\ \times 9 \\ \hline 468 \end{array}$$

$$\begin{array}{r} 104 \\ \times 6 \\ \hline 624 \end{array}$$

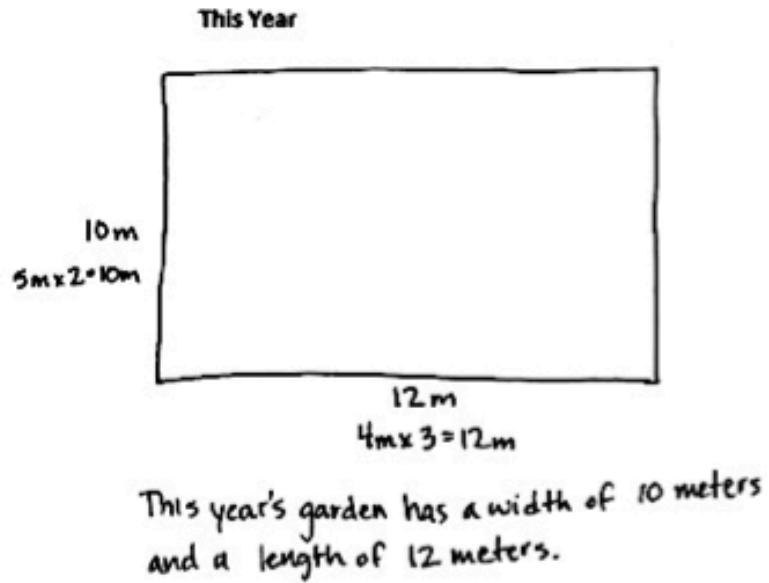
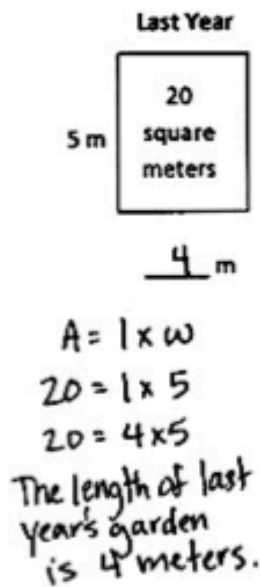
$$\begin{array}{r} 468 \\ + 624 \\ \hline 1092 \end{array}$$

Both teachers have 1,092 boxes of crayons. My answer is reasonable because it is very close to my estimate of 1,120 boxes.



## Grade 4 Module 3 Mid-Module Assessment Task Key (continued)

5. Last year, Mr. Petersen's rectangular garden had a width of 5 meters and an area of 20 square meters. This year, he wants to make the garden three times as long and two times as wide.
- a. Solve for the length of last year's garden using the area formula. Then, draw and label the measurements of this year's garden.



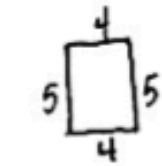
- b. How much area for planting will Mr. Petersen have in the new garden?

$$A = l \times w$$
$$= 12 \times 10$$
$$= 120$$

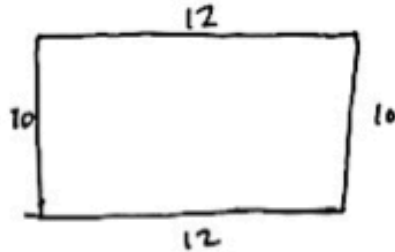
Mr. Petersen's new garden has an area of 120 square meters.

## Grade 4 Module 3 Mid-Module Assessment Task Key (continued)

- c. Last year, Mr. Petersen had a fence all the way around his garden. He can reuse all of the fence he had around the garden last year, but he needs to buy more fencing to go around this year's garden. How many more meters of fencing is needed for this year's garden than last year's?



$$\begin{aligned} P &= 2(l+w) \\ &= 2(4+5) \\ &= 2 \times 9 \\ &= 18 \end{aligned}$$

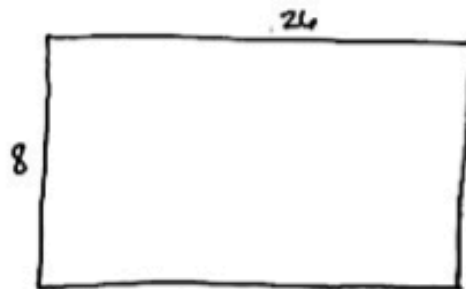
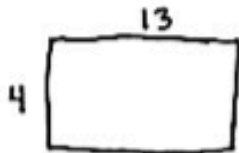


$$\begin{aligned} P &= 2(12+10) \\ &= 2(22) \\ &= 2 \times 22 \\ &= 44 \end{aligned}$$

$$\begin{array}{r} 34 \\ 44 \\ - 18 \\ \hline 26 \end{array}$$

This year's garden will need 26 more meters of fencing.

- d. Last year, Mr. Petersen was able to plant 4 rows of carrots with 13 plants in each row. This year, he plans to plant twice as many rows with twice as many carrot plants in each. How many carrot plants will he plant this year? Write a multiplication equation to solve. Assess the reasonableness of your answer.



$$\begin{aligned} 8 \times 26 &\approx 8 \times 25 \\ 8 \times 25 &= 200 \end{aligned}$$

$$\begin{array}{r} 26 \\ \times 8 \\ \hline 208 \end{array}$$

He will plant 208 carrot plants this year.  
My answer is reasonable because it is very close to my estimate of 200 plants.

## Grade 4 Module 3 End-of-Module Assessment Task Score Sheet

### A Progression of Learning

A Progression of Learning is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left to right. The learning goal for each student is to move to the last step, “Evidence of solid reasoning with a correct answer”. These steps are meant to help teachers and students identify and celebrate what the student CAN do now, and what they need to work on next.

#### Score Key: A Progression of Learning

Little or no evidence of reasoning with an incorrect answer.  (1 Point)	Evidence of some reasoning with an incorrect answer.  (2 Points)	Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  (3 Points)	Evidence of solid reasoning with a correct answer.  (4 Points)
---	--	---	--

Module 3: End-of-Module Assessment									
Question	Domain			Standards					
	Operations and Algebraic Thinking	Number and Operations in Base Ten	Measurement and Data	4.OA.1	4.OA.2	4.OA.3	4.OA.4	4.NBT.5	4.NBT.6
1	1 2 3 4						X		
2	1 2 3 4						X		
3	1 2 3 4	1 2 3 4				X		X	X
4		1 2 3 4							X
5		1 2 3 4							X
6a			1 2 3 4						X
6b, c, d	1 2 3 4	1 2 3 4		X	X	X		X	X

Domain Score	Operations and Algebraic Thinking		Number and Operations in Base-Ten		Measurement and Data	
Total Points						
Level	4	14-16 pts.	4	14-16 pts.	4	4 pts.
	3	10-13 pts.	3	10-13 pts.	3	3 pts.
	2	6-9 pts.	2	6-9 pts.	2	2 pts.
	1	4-5 pts.	1	4-5 pts.	1	1 pt.

Note: The lowest rubric score is 1. Therefore, any student scoring at level 1 for each assessment item will still be assigned some points. This translates to a score of 1 in the grade book.

**Grade 4 Module 3 End-of-Module Assessment Task Score Sheet (continued)**

End-of-Module Assessment Task (Topics A – H)	
Clusters and Standards Addressed	
<p><b>Use the four operations with whole numbers to solve problems.</b></p> <p><b>4.OA.1</b> Interpret a multiplication equation as a comparison, e.g., interpret <math>35 = 5 \times 7</math> as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</p> <p><b>4.OA.2</b> Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.</p> <p><b>4.OA.3</b> Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</p> <p><b>Gain familiarity with factors and multiples.</b></p> <p><b>4.OA.4</b> Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1 – 100 is prime or composite.</p> <p><b>Use place value understanding and properties of operations to perform multi-digit arithmetic.</b></p> <p><b>4.NBT.5</b> Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p><b>4.NBT.6</b> Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p><b>Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</b></p> <p><b>4.MD.3</b> Apply the area and perimeter formulas for rectangles in real world and mathematical problems. <i>For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</i></p>	

## Grade 4 Module 3 End-of-Module Assessment Task Rubric

A Progression of Learning				
Assessment Task Item	STEP 1 Little or no evidence of reasoning with an incorrect answer.  (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
1  4.OA.4	The student answers incorrectly with a number that is not a multiple of 7.	The student answers incorrectly with a number that is a multiple of 7 but greater than 60.	The student answers with a multiple of 7 that is less than 60 but not 56.	The student correctly answers: The greatest multiple of 7 that is less than 60 is 56.
2  4.OA.4	The student correctly answers <b>0-3</b> of the parts.  a. (1) prime; (2) 1, 3 b. (3) composite; (4) 1, 2, 3, 6 c. (5) composite; (6) 1, 3, 5, 15 d. (7) composite; (8) 1, 2, 3, 4, 6, 8, 12, 24 e. (9) prime; (10) 1, 29			
3  4.OA.3 4.NBT.5 4.NBT.6  Use this rubric to double score #3. Enter the same score in OA as in NBT.	The student incorrectly answers both parts and shows no reasoning.	The student answers a. 400 OR b. Finds the total of 288 pencils, but not how many teachers each teacher received, or finds that each teacher received 24 pencils. (Completes 1 of the 2 steps in b.)	The student answers a. 400 b. Find the total number of pencils, then divides by the number of teachers, but makes a calculation error resulting in an incorrect answer for the number of pencils each teacher received.	The student correctly answers using any place value strategy: a. 400 b. Each teacher received 72 pencils.
4  4.NBT.6	The student incorrectly solves both parts, with little understanding shown.	The student incorrectly solves both parts, but shows some understanding in their attempt	The student answers part (1) or part (2) correctly, with partial understanding in the other part.	The student correctly (1) decomposes and divides using the number disks to arrive at 142 with a remainder of 1 (2) provides a numerical answer of 142 with a remainder of 1.

Assessment Recommendations for Eureka Math A Story of Units  
Teaching and Learning Department - Bethel School District

Assessment Task Item	STEP 1 Little evidence of reasoning with an incorrect answer.  (1 Point)	STEP 2 Evidence of some reasoning with an incorrect answer.  (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer.  3 Points)	STEP 4 Evidence of solid reasoning with a correct answer.  (4 Points)
<b>5</b>  <b>4.NBT.6</b>	The student correctly solves <b>0-1</b> parts.	The student correctly solves <b>2</b> part.	The student correctly solves <b>3</b> parts.	The student solves <b>4</b> of the four parts correctly. (See below.)
	<b>a. (1)</b> 1,772 <b>c. (3)</b> 1,624 <b>b. (2)</b> 761 with a remainder of 4 <b>d. (4)</b> 731 Shows place value strategy.			
<b>6a</b>  <b>4.MD.3</b>	The student correctly answers <b>0-1</b> of the parts. (See below.)	The student correctly answers <b>2</b> of the parts. (See below.)	The student correctly answers <b>3</b> of the parts. (See below.)	The student correctly answers <b>4</b> of the parts. (See below.)
	<b>(1)</b> solves using a model or equation. <b>(2)</b> Shows work. <b>(3)</b> Writes 1,638 square meters of flooring (estimate $40 \times 40 = 1,600$ square m). <b>(4)</b> It is a reasonable because the answer and estimate have a difference of only 38 square meters.			
<b>6 b, c, d</b>  <b>4.OA.1</b> <b>4.OA.2</b> <b>4.OA.3</b> <b>4.NBT.5</b> <b>4.NBT.6</b>  <b>Use this rubric to double score #6 b, c, d. Enter the same score in OA as in NBT.</b>	The student correctly answers <b>0-2</b> of the parts. (See below)	The student correctly answers <b>3-4</b> of the parts. (See below)	The student correctly answers <b>5-6</b> of the parts. (See below)	The student correctly answers <b>7</b> of the parts. (See below)
	<b>b. (1)</b> solves using model or equation <b>(2)</b> shows work <b>(3)</b> answers 528 more small posters than large posters. <b>c. (4)</b> solves using model or equation <b>(5)</b> shows work <b>(6)</b> answers 48 packages. <b>d. (7)</b> The possibilities are: $1 \times 28 = 28$ $28 \times 1 = 28$ $2 \times 14 = 28$ $14 \times 2 = 28$ $4 \times 7 = 28$ $7 \times 4 = 28$			

## Grade 4 Module 3 End-of-Module Assessment Task Key

Name Jack

Date \_\_\_\_\_

1. What is the greatest multiple of 7 that is less than 60?

7, 14, 21, 28, 35, 42, 49, 56, 63

56 is the greatest multiple of 7 that is less than 60.

2. Identify each number as prime or composite. Then list all of its factors.

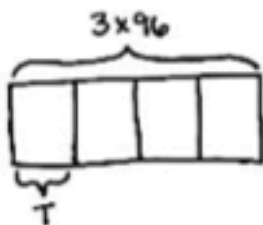
a. 3 prime 1, 3b. 6 composite 1, 2, 3, 6c. 15 composite 1, 3, 5, 15d. 24 composite 1, 2, 3, 4, 6, 8, 12, 24e. 29 prime 1, 29

3. Use any place value strategy to divide.

- a.
- $3,600 \div 9$

$$36 \text{ hundreds} \div 9 = 4 \text{ hundreds} \\ = 400$$

- b. 96 pencils come in a box. If 4 teachers share 3 boxes equally, how many pencils does each teacher receive?



$$\begin{array}{r} 96 \\ \times 3 \\ \hline 288 \end{array}$$

70	2
280	8

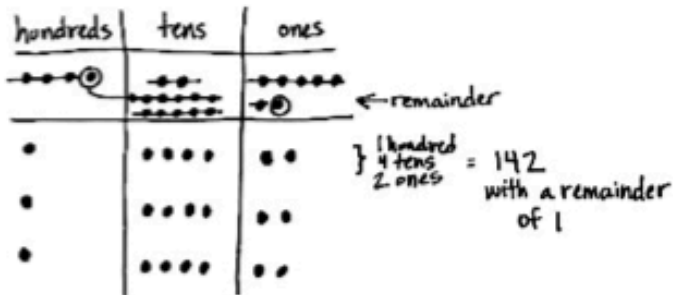
$$\begin{array}{r} .72 \\ 4 \overline{) 288} \\ \underline{-280} \\ 8 \\ \underline{-8} \\ 0 \end{array}$$

$70 + 2 = 72$   
Each teacher receives 72 pencils.

## Grade 4 Module 3 End-of-Module Assessment Task Key (continued)

4.  $427 \div 3$

a. Solve by drawing place value disks:



b. Solve numerically:

$$\begin{array}{r} 142 \text{ R}1 \\ 3 \overline{)427} \\ \underline{-3} \phantom{00} \\ 12 \phantom{00} \\ \underline{-12} \phantom{00} \\ 07 \phantom{00} \\ \underline{-6} \phantom{00} \\ 1 \end{array}$$

$$\begin{array}{r} \checkmark 142 \\ \times 3 \\ \hline 426 \\ 426 + 1 = 427 \end{array}$$

5. Use any place value strategy to multiply or divide.

a.  $5316 \div 3$

$$\begin{array}{r} 1772 \\ 3 \overline{)5316} \\ \underline{-3} \phantom{0000} \\ 23 \phantom{000} \\ \underline{-21} \phantom{000} \\ 21 \phantom{000} \\ \underline{-21} \phantom{000} \\ 06 \phantom{00} \\ \underline{-6} \phantom{00} \\ 0 \end{array}$$

$$\begin{array}{r} \checkmark 1,772 \\ \times 3 \\ \hline 5,316 \end{array}$$

b.  $3,809 \div 5$

$$\begin{array}{r} 761 \text{ R}4 \\ 5 \overline{)3809} \\ \underline{-35} \phantom{000} \\ 30 \phantom{000} \\ \underline{-30} \phantom{000} \\ 09 \phantom{00} \\ \underline{-5} \phantom{00} \\ 4 \end{array}$$

$$\begin{array}{r} \checkmark 761 \\ \times 5 \\ \hline 3,805 \\ 3,805 + 4 = 3,809 \end{array}$$

c.  $29 \times 56$

	50	6
9	450	54
20	1,000	120

$$\begin{array}{r} 56 \\ \times 29 \\ \hline 504 \\ 450 \phantom{0} \\ 120 \phantom{00} \\ + 1000 \phantom{00} \\ \hline 1,624 \end{array}$$

d.  $17 \times 43$

	40	3
7	280	21
10	400	30

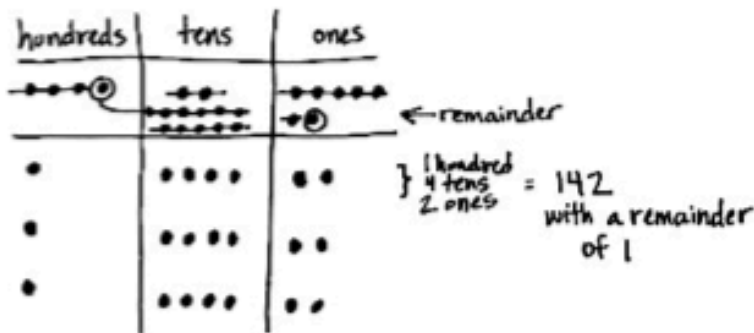
$$\begin{array}{r} 43 \\ \times 17 \\ \hline 21 \\ 280 \phantom{0} \\ 30 \phantom{00} \\ + 400 \phantom{00} \\ \hline 731 \end{array}$$



## Grade 4 Module 3 End-of-Module Assessment Task Key (continued)

4.  $427 \div 3$

a. Solve by drawing place value disks:



b. Solve numerically:

$$\begin{array}{r} 142 \text{ R}1 \\ 3 \overline{)427} \\ \underline{-3} \phantom{0} \\ 12 \phantom{0} \\ \underline{-12} \phantom{0} \\ 07 \\ \underline{-6} \\ 1 \end{array}$$

$$\begin{array}{r} \checkmark 142 \\ \times 3 \\ \hline 426 \\ 426 + 1 = 427 \end{array}$$

5. Use any place value strategy to multiply or divide.

a.  $5316 \div 3$

$$\begin{array}{r} 1772 \\ 3 \overline{)5316} \\ \underline{-3} \phantom{00} \\ 23 \phantom{0} \\ \underline{-21} \phantom{0} \\ 21 \phantom{0} \\ \underline{-21} \phantom{0} \\ 06 \\ \underline{-6} \\ 0 \end{array}$$

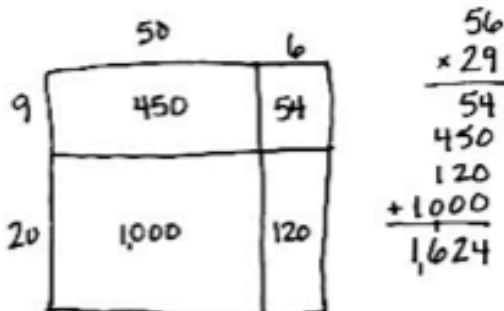
$$\begin{array}{r} \checkmark 1772 \\ \times 3 \\ \hline 5316 \end{array}$$

b.  $3,809 \div 5$

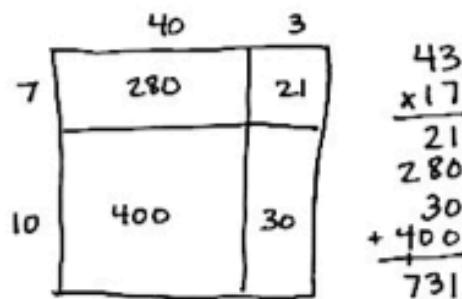
$$\begin{array}{r} 761 \text{ R}4 \\ 5 \overline{)3809} \\ \underline{-35} \phantom{00} \\ 30 \phantom{0} \\ \underline{-30} \phantom{0} \\ 09 \\ \underline{-5} \\ 4 \end{array}$$

$$\begin{array}{r} \checkmark 761 \\ \times 5 \\ \hline 3805 \\ 3805 + 4 = 3809 \end{array}$$

c.  $29 \times 56$



d.  $17 \times 43$

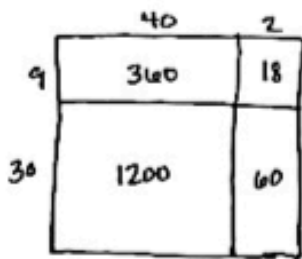


## Grade 4 Module 3 End-of-Module Assessment Task Key (continued)

Directions: Solve using a model or equation. Show your work and write your answer as a statement.

6. A new grocery store is opening next week.

- a. The store's rectangular floor is 42 meters long and 39 meters wide. How many square meters of flooring do they need? Use estimation to assess the reasonableness of your answer.

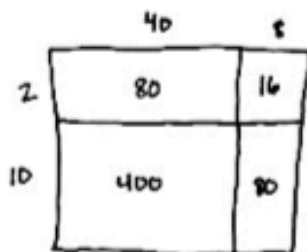
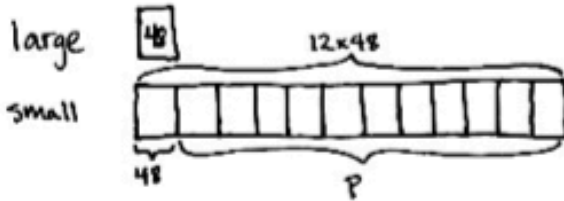


$$\begin{array}{r} 42 \\ \times 39 \\ \hline 18 \\ 360 \\ 60 \\ + 1200 \\ \hline 1,638 \end{array}$$

They need 1,638 square meters of flooring. My answer is reasonable because it is close to my estimate of 1,600 square meters.

$$\begin{aligned} 42 \times 39 &\approx 40 \times 40 \\ 40 \times 40 &= 1,600 \end{aligned}$$

- b. The store ordered small posters and large posters to promote their opening. 12 times as many small posters were ordered as large posters. If there were 48 large posters, how many more small posters were ordered than large posters?



$$\begin{array}{r} 48 \\ \times 12 \\ \hline 16 \\ 80 \\ 80 \\ + 400 \\ \hline 576 \end{array}$$

$$\begin{array}{r} 576 \\ - 48 \\ \hline 528 \\ P = 528 \end{array}$$

528 more small posters were ordered than large posters.

## Grade 4 Module 3 End-of-Module Assessment Task Key (continued)

- c. Uniforms are sold in packages of 8. The store's 127 employees will each be given 3 uniforms. How many packages will the store need to order?

Diagram: A package labeled "8" with a bracket above it labeled "127 x 3". The package is divided into sections, with a question mark in the middle and a shaded section at the end labeled "remainder".

Handwritten work:

$$127 \times 3 = 381$$

$$\begin{array}{r} 127 \\ \times 3 \\ \hline 381 \end{array}$$

$$\begin{array}{r} 47 \text{ R } 5 \\ 8 \overline{) 381} \\ \underline{-32} \phantom{1} \\ 61 \\ \underline{-56} \\ 5 \end{array}$$

$$\begin{array}{r} \checkmark 47 \\ \times 8 \\ \hline 376 \end{array}$$

$$376 + 5 = 381$$

The store needs to order 48 packages. If they order 47 packages, only 376 uniforms will come and they will need 5 more uniforms.

- d. There are 3 numbers for the combination to the store's safe. The first number is 17. The other 2 numbers can be multiplied together to give a product of 28. What are all of the possibilities for the other two numbers? Write your answers as multiplication equations, and then write all of the possible combinations to the safe.

$$\begin{aligned} 28 &= 1 \times 28 \\ 28 &= 28 \times 1 \\ 28 &= 2 \times 14 \\ 28 &= 14 \times 2 \\ 28 &= 4 \times 7 \\ 28 &= 7 \times 4 \end{aligned}$$

The combination possibilities are:

$$\begin{aligned} &17, 1, 28 \\ &17, 28, 1 \\ &17, 2, 14 \\ &17, 14, 2 \\ &17, 4, 7 \\ &17, 7, 4 \end{aligned}$$